

COMPRESSOR DEFINITION

Designation	EM D20CLT
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	710BA89

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	220-240 / 50	[V / Hz]	
4 Application type	Low-Medium Back Pressure (Light Commercial)		
4.1 Evaporating temperature range	-35°C to 0°C	(-31°F to 32°F)	
5 Motor type	RSCR		
6 Starting torque	LST - Low Starting Torque		
7 Expansion device	Capillary tube		
8 Compressor cooling	Operating voltage range		
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	-	-	-
8.2 LBP (43°C Ambient temperature)	-	-	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm ²] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm ²] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation		[hp]
2 Displacement	3.97	[cm ³] (0.242 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	14.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO2	
4 Weight (with oil charge)	7.7	[kg] (16.98 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	MI2021/V230	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	2(350)/2.5(350)/4(350)	[µF(VAC minimum)]
5 Motor protection	AE23AHNX	
6 Start winding resistance	37.90	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	49.40	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	2.10	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAE LBP-NOFAN Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
214	54	63	36	0.18	0.67	5.96	1.50	1.75

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32-NOFAN Static				(Condensing temperature 35°C (+95°F))				
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	132	33	39	26	0.12	0.41	5.05	1.27	1.48
-30	(-22)	177	45	52	29	0.13	0.55	6.13	1.54	1.80
-25	(-13)	235	59	69	33	0.15	0.74	7.07	1.78	2.07
-20	(- 4)	304	77	89	38	0.17	0.95	8.03	2.02	2.35
-15	(+ 5)	383	97	112	42	0.18	1.21	9.14	2.30	2.68
-10	(+14)	472	119	138	45	0.19	1.49	10.55	2.66	3.09
-5	(+23)	570	144	167	47	0.20	1.80	12.42	3.13	3.64
0	(+32)	675	170	198	45	0.20	2.14	14.87	3.75	4.36

TEST CONDITIONS: @220V50Hz		ASHRAE32-NOFAN Static				(Condensing temperature 45°C (+113°F))				
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	107	27	31	26	0.12	0.34	4.17	1.05	1.22
-30	(-22)	153	38	45	29	0.13	0.48	5.30	1.34	1.55
-25	(-13)	211	53	62	34	0.15	0.66	6.23	1.57	1.83
-20	(- 4)	281	71	82	39	0.17	0.88	7.10	1.79	2.08
-15	(+ 5)	361	91	106	44	0.19	1.14	8.07	2.03	2.36
-10	(+14)	451	114	132	49	0.21	1.42	9.27	2.34	2.72
-5	(+23)	550	139	161	51	0.22	1.74	10.86	2.74	3.18
0	(+32)	657	166	193	50	0.23	2.08	12.98	3.27	3.80

TEST CONDITIONS: @220V50Hz		ASHRAE32-NOFAN Static				(Condensing temperature 55°C (+131°F))				
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	90	23	26	25	0.12	0.28	3.55	0.90	1.04
-30	(-22)	135	34	39	29	0.14	0.42	4.71	1.19	1.38
-25	(-13)	192	48	56	34	0.16	0.60	5.61	1.41	1.64
-20	(- 4)	261	66	77	41	0.19	0.82	6.39	1.61	1.87
-15	(+ 5)	341	86	100	47	0.21	1.07	7.19	1.81	2.11
-10	(+14)	431	109	126	53	0.23	1.36	8.17	2.06	2.40
-5	(+23)	531	134	155	56	0.26	1.68	9.47	2.39	2.78
0	(+32)	638	161	187	57	0.27	2.02	11.24	2.83	3.29

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32-NOFAN Static			(Condensing temperature 65°C (+149°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	70	18	21	24	0.11	0.22	2.94	0.74	0.86
-30	(-22)	112	28	33	28	0.13	0.35	4.12	1.04	1.21
-25	(-13)	168	42	49	35	0.16	0.53	4.97	1.25	1.46
-20	(- 4)	235	59	69	42	0.19	0.74	5.64	1.42	1.65
-15	(+ 5)	314	79	92	50	0.22	0.99	6.28	1.58	1.84
-10	(+14)	402	101	118	57	0.25	1.27	7.02	1.77	2.06
-5	(+23)	500	126	147	62	0.28	1.58	8.02	2.02	2.35
0	(+32)	607	153	178	65	0.31	1.93	9.42	2.37	2.76

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 42° up + 45° to Back		
3.2 DISCHARGE	5.1 +0.10/+0.00	[mm]	(0.201" +0.004"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 42° up + 45° to Back		
3.3 PROCESS	6 +0.08/-0.08	[mm]	(0.236" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 43° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		